PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PF040046	**FOR FURTHER ACTION** See Form PCT/IPEA/416	
International application No. PCT/EP2005/050937	International filing date *(day/month/year)* 03.03.2005	Priority date *(day/month/year)* 22.03.2004
International Patent Classification (IPC) or national classification and IPC INV. H04J3/06		
Applicant NEXTREAM FRANCE et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 2 sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☒ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☒	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☒	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
23.01.2006	31.05.2006
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Le Bras, P Telephone No. +49 89 2399-8819

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2005/050937

Box No. I Basis of the report

1. With regard to the **language**, this report is based on

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
   - ☐ international search (under Rules 12.3(a) and 23.1(b))
   - ☐ publication of the international application (under Rule 12.4(a))
   - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

   Description, Pages

   1-11 as originally filed

   Claims, Numbers

   1-7 received on 26.01.2006

   Drawings, Sheets

   1/5-5/5 as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☒ The amendments have resulted in the cancellation of:
   - ☐ the description, pages
   - ☒ the claims, Nos. 8
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages
   - ☒ the claims, Nos. 1-6
   - ☐ the drawings, sheets/figs
   - ☐ the sequence listing *(specify)*:
   - ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 1-6

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination *(specify)*:

☒ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. 1 are so unclear that no meaningful opinion could be formed *(specify)*:

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed *(specify)*.

☐ no international search report has been established for the said claims Nos.

☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13*ter*.1(a) or (b) and 13*ter*.2.

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☒ See separate sheet for further details

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-7
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-7
Industrial applicability (IA)	Yes:	Claims	1-7
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item III

1. Claim 1 as filed on 26.01.2006 has been drafted with amendments that are considered to go beyond the content of the application as filed, Rule 70.2 (c) PCT. The reasons are the following: claim 1 comprises "sub-means for modifying in a **non-linear manner** the local reception clock according to said difference". The expression **non-linear manner** cannot be found in the application as filed and go far beyond the content of the application as filed. As a matter of fact, the method and feature of the description at the place indicated by the applicant are or works according to non-linear manner. However the expression non-linear covers embodiments that go far beyond the content of the application as filed which describes a single embodiment. Moreover the expression "non-linear manner" is not clear, Article 6 PCT, since it is interpreted as a disclaimer and does not provide any limitation for the search protection.
   This feature cannot be considered for the assumption of an inventive step and therefore no statement on novelty, inventive step can be done on claims 1 to 6 as filed on 26.01.2006.

2. The applicant failed to overcome the objection during the PCT Chapter II phase.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:
D1: US-A-5 966 387 (CLOUTIER ET AL) 12 October 1999 (1999-10-12)
D2: US 2001/000071 A1 (NICHOLS RICHARD ALLEN) 29 March 2001 (2001-03-29)

1. Claim 1-6 as filed on 26.01.2006: see par III above, no reasoned statements

2. Claim 1 as originally filed:

The present application based on claim 1 as originally filed does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

A device for use in a packet data transmission network, each data packet comprising a time label (D1, see abstract, the PCR values are time label comprised in MPEG data packets), the device comprising
means of temporary storage (D1, fig.2, buffer means 144, and col.13, l.7-11) intended to receive the packets received from the network having a storage capacity able to record data received for a predetermined time dependent on the characteristics of the network (the device of D1 being for eliminating the jitter, the storing time in the storage means is dependent on the jitter which is dependent on the network characteristics, see also D1, col.13, l.7-57),
means for regenerating a local reception clock as a function of the time label of the incoming packets (D1, fig.2, device 130 and 136),
means for reading the data from the storage means at an instant dependent on the said predetermined time and on the regenerated local reception clock (D1, signal BA and col.13, l.26-57, the BA signal is adjusted as function of the buffer size, i.e the said predetermined time, and depends also on the local clock).

The device of D1 is for jitter reduction, it is however clear from D1 that such a system work is time-slaved to the incoming data packet. Some slight differences can be detected in the manner the two devices (according to D1 and to the application) are presented. It is however obvious that the definition given in claim 1 is fully derivable from D1, leading to a lack of inventive step of the subject-matter of claim 1, Article 33(3) PCT.

3. Claim 7:
Claim 7 on file is identical to claim 8 as originally filed.
It is directed towards the method corresponding to the system of claim 1 as originally filed and as such is also fully derivable from D1 (see paragraph 2 above) and does

not fulfill the requirements of Article 33(3) PCT.

4. Claims 2 to 6 as originally filed:
Dependent claims 2 to 6 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see document D1 and D2 and the corresponding passages cited in the search report. In particular it should be noted that phase noise reduction in the other term for jitter reduction as in D1. It cannot be detected major differences in the manner to reduce jitter between the embodiments of the dependent claims and D1.

Re Item VII

1. Independent claims 1 and 7 should be in the two-part form in accordance with Rule 6.3(b) PCT, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

2. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor are these documents identified therein.

26. 01. 2006

Claims

(65)

1. Device for temporal slaving in a packet data transmission network, each data packet comprising a time label, the said device comprising means of temporary storage (6), intended to receive the packets received from the said network ~~and being characterized in that~~

~~- the means of temporary storage (6) have a storage capacity able to record data received for a predetermined time (IPDV) dependant on the characteristics of the network (5),~~

and having a storage capacity able to record data received for a predetermined time (IPDV) dependant on the characteristics of the network (5),

- the said device furthermore comprising
- means (7) for regenerating a local reception clock as a function of the time label of the incoming packets,
- means for reading the data in the means of temporary storage at an instant dependent on the said predetermined time (IPDV) and on the regenerated local reception clock.

characterized in that the means for regenerating a local reception clock comprise sub-means for accumulating said difference between the time labels of the incoming packets and the local reception clock during a period of time (Tupdate) and a sub-means for modifying in a non linear manner the local reception clock according to said difference.

2. Device according to Claim 1, characterized in that the means of reading the data in the means of temporary storage (6) are adapted for reading the data in the means of temporary storage (6) when the difference between the said predetermined time (IPDV) and the regenerated local clock is greater than the value of the time label of the next packet to be output from the means of temporary storage (6).

~~3. Device according to one of Claims 1 to 2, characterized in that the means of regenerating the local clock are able to aggregate the~~

~~discrepancies between the local reception clock (Rx) for the data packets and the time labels of the data packets received between two instants dependent on the frequency of the local clock (Rx) and the transmission clock (Tx) for the data packets.~~

3. Device according to one of the preceding claims, characterized in that it comprises means of reducing the convergence time on start-up, **said means comprising sub-means for accumulating the said differences for a predetermined number of received packets and calculate a mean of said differences over said predetermined number of packets, said mean of said differences being substracted from said differences.**

4. Device according to one of the preceding claims, characterized in that it comprises means (31) of reducing the phase noise.

5. Device according to Claim 4, characterized in that the means (31) of reducing the phase noise comprise a digital low-pass filter.

6. Device according to one of the preceding claims, characterized in that it comprises means (32) of generating artificial noise.

7. Method of temporal slaving in a packet data transmission network, each data packet comprising a time label, the said method comprising a step of temporary storage (6) of the packets received from the said network and being characterized in that

- during the storage step, the data are stored for a predetermined time (IPDV) dependant on the characteristics of the network (5),
- the said method furthermore comprising
- a step of regenerating a local reception clock as a function of the time label of the incoming packets,
- a step of reading the data in the means of temporary storage at an instant dependent on the said predetermined time (IPDV) and on the regenerated local reception clock.